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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,282	04/12/2001	Dan A. Steinberg	Haleos 2001-124	2027

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HALEOS, INC.
3150 STATE STREET
BLACKSBURG, VA 24060

EXAMINER

ZARROLI, MICHAEL C

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/833,282

Applicant(s)

STEINBERG, DAN A.

Examiner

Michael C. Zarroli

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-9,11-17,22-26 and 29-37 is/are allowed.
- 6) ☒ Claim(s) 2,10,18-21,27,28,38-40,45,46,59,60,63,64,69-73,75 and 76 is/are rejected.
- 7) ☒ Claim(s) 41-44,47-58,61,62,65-68 and 74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the orthogonal translation between the first and second substrates must be shown or the feature(s) canceled from the claim(s) (e.g. claim 4). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to argument: Movement between substrates is a critical limitation and aspect of this proposed invention. None of the drawings show this movement. Many of the components the applicant discusses in his argument are not referenced in the specification (e.g., 604 “vertical grooves” are called grooves in the specification, 616 “horizontal grooves” are detents in the specification). As one with ordinary skill in the art the examiner does not see from the drawings, how the orthogonal movement between the substrates is accomplished.

2. All other drawing objections have been overcome.

Claim Objections

3. All objections to the claims have been overcome.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 2, 10, 18-21, 27-28, 59-60 and, 69-70 are rejected under 35

U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "registration" or "register" in claims 2, 10, 18, 21, 27, 59-60 and, 69-70 is a relative term, which renders the claims indefinite. The term "registration" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How are components that are in registration or even "partial registration" with each other related? Are they in contact, aligned, staggered etc.?

Response to argument: After rereading the claims, the examiner (who is one of ordinary skill in the art) still does not readily understand how the

applicant intends using the term “registration” to recite the claimed invention.

Although the applicant apparently intended to revise claim 28 as claim 29 was revised, this revision of claim 28 was never entered in the amendment.

6. All other 112 rejections have been overcome.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 38-40, 45-46, 63-64, 71-73 and, 75-76 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted art Basavanhally et al (US 5337384) in view of Kaplow et al (US 5440655).

Basavanhally discloses a fiber optic array switch (first sentence of abstract) with a first (12, 14) and second array (13, 15). Each array has a front face that is disposed facing the other (fig. 1). Basavanhally also discloses a

friction-reducing element (23, 24) “intermediate” these faces that aid when the arrays are aligned to effect switching.

Basavanhally does not disclose grooves.

Kaplow discloses an optical fiber switch (abstract first two sentences) with a first groove along a first path within the front face (fig. 11) of a first array (90 or 91) and, a second groove along a second path in the front face (fig. 11) of a second array (92).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the first and second grooves of Kaplow with the device of Basavanhally. The motivation for doing so would have been to eliminate some of the expensive alignment equipment of Basavanhally. With these alignment grooves of Kaplow combined with the device of Basavanhally, the alignment components in for example figure 4 could be eliminated.

Regarding claim 39 Kaplow discloses a friction-reducing element that includes a first roller element (45) in a first groove (49) of a first array (38) and in contact with (fig. 4A) the face of the second array (37) thereby allowing the first array to be displaced (figures 6 & 7) relative to the second array along the direction of the first path (fig. 4A).

Regarding claim 40 Kaplow discloses that the second groove is disposed relative to the first groove to provide a single path of movement between the arrays (figures 8A & 8B).

Regarding claim 45 Kaplow discloses that the first and second grooves are the same length (fig. 11).

Regarding claim 46 Kaplow discloses that the roller element is confined in the first groove during relative displacement of the two arrays (fig. 4A).

Regarding claims 63-64 and, 71-72 Basavanhally discloses that the first array is two dimensional and comprised of a plurality of linear fiber channels (16).

Regarding claim 73 Basavanhally discloses that a roller element is spherical (fig. 1).

Regarding claims 75-76 Basavanhally discloses that the first array holds at least one optical fiber (38 or 49).

9. All other art rejections have been overcome.

Response to Arguments

10. Applicant's arguments filed 12/2/02 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the definition for "front face" that the applicant intends) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Applicant merely alleges that the combination was improper hindsight reasoning. Applicant does not discuss how combination is improper.



Examiner contends that the combination would reduce cost, a prime motivator for a combination.

Allowable Subject Matter

11. Claims 1, 3-9, 11-17, 22-26 and, 29-37 are allowed over the prior art of record.
12. Claims 2, 10, 18-21 and, 27-28 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
13. Claims 41-44, 47-58, 61-62, 65-68 and, 74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
14. The following is a statement of reasons for the indication of allowable subject matter: A fiber optic array switch with a first substrate that translates with respect to a second substrate by way of a groove and friction reducing element and, fiber optic retaining channels extending from a front face to a rear face of each substrate.



Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 703-305-0608. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Feild can be reached on (703) 308-2710. The fax phone numbers for the organization where this application or proceeding is



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assigned are 703-872-9318 for regular communications and 703-872-9319 for

After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Michael C. Zarroli

Examiner

Art Unit 2839

MCZ

MCZ

December 12, 2002